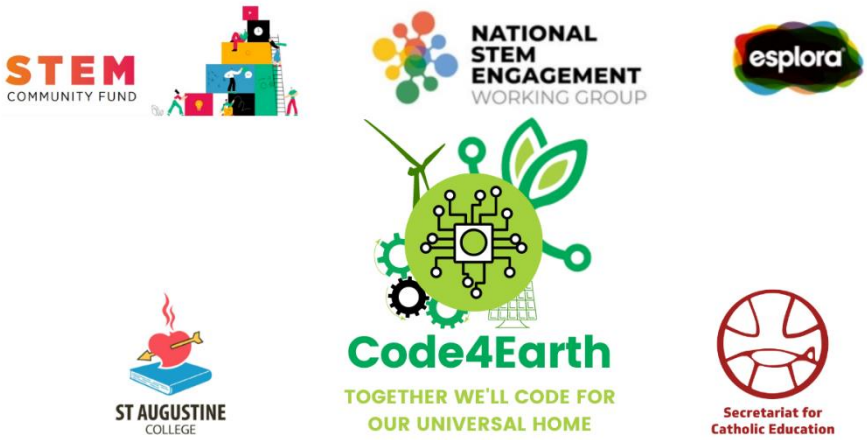

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Code4Earth is part/financed by the National STEM Community Fund of Esplora Interactive Science Centre (Malta Council for Science and Technology) on behalf of the National STEM Engagement Working Group.

In a rapidly changing world where environmental challenges loom large, the Code4Earth project emerges as a shining beacon of hope and innovation. This transformative initiative, designed to address pressing threats to our planet, engages learners in a hands-on, STEM-focused journey that not only equips them with essential skills but also ignites a passion for sustainability and positive change.

The Journey Begins

At the heart of Code4Earth lies a commitment to learner-centred education. The project started by immersing young minds of Year 6 students at St. Augustine College in real-world environmental issues. As the journey unfolds, students take their first step towards understanding the severity of environmental issues. Equipped with the Kitronik environmental control board, generously funded by the STEM community Fund via Esplora, they simulated the adverse effects of fossil fuels on a plants' life. Through hands-on experimentation and coding, they monitored temperature and humidity while controlling the plants' water supply.

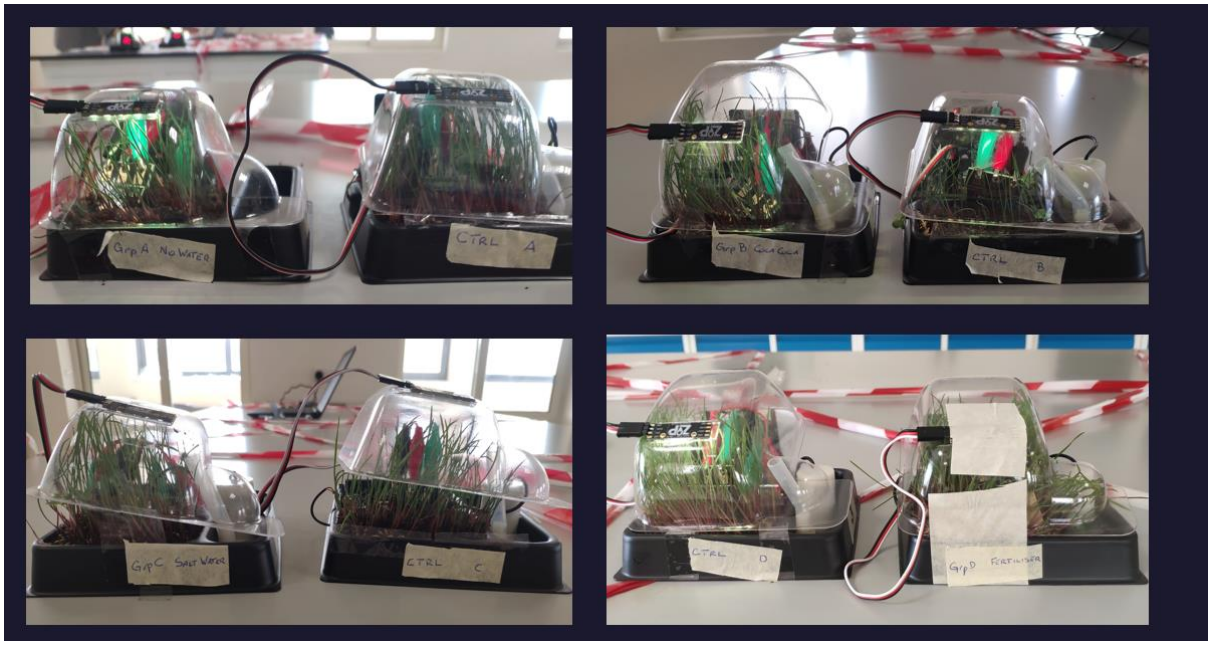

Fig. 1: Testing the environmental threats to each plant with a control plant using the Kitronik Environmental Control Board

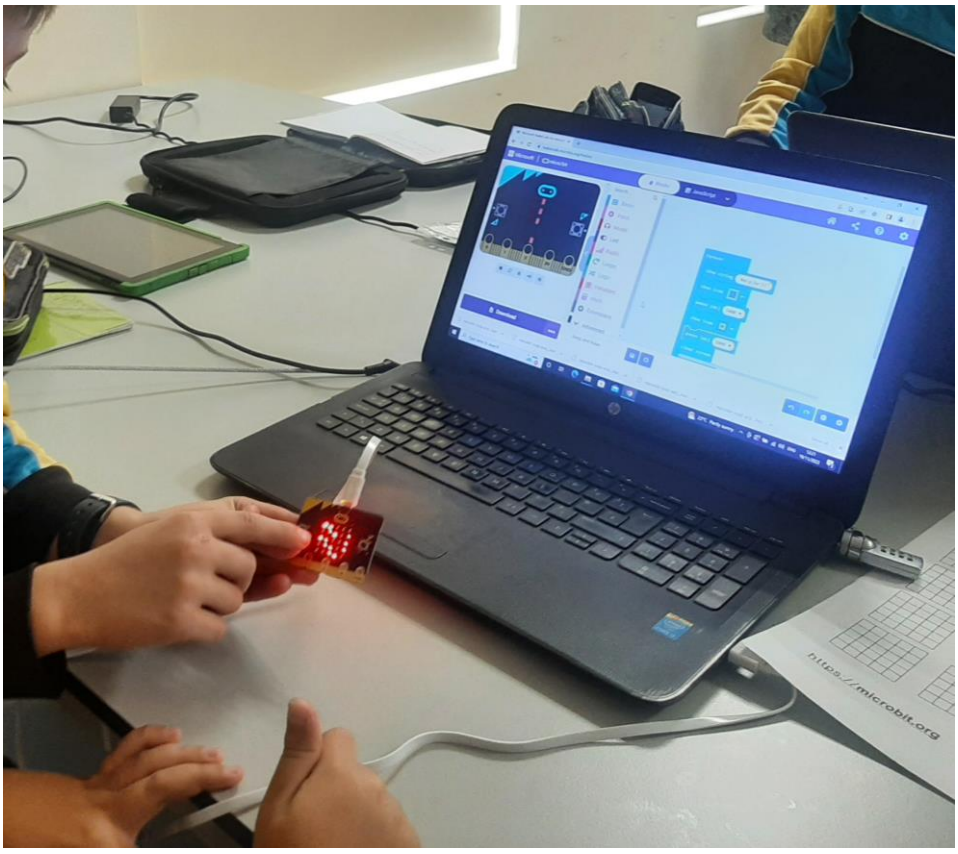

Fig. 2: Coding using the Micro:Bit

Engineering for Sustainability

The second stage of the Code4Earth journey showcased the engineering and creativity skills of the students. The Fischer Technik Green Energy kits brought eco-friendly inventions to life. Solar helicopters, wind turbines, and other sustainable models fed into the students' creativity. Local pollution issues are tackled head-on, demonstrating the power of innovation in addressing environmental challenges.

Fig. 3: Models assembled from the Fischer Technik Green Energy Kits

Passion and Innovation

Learners, driven by a commitment to solving real-life environmental hazards, passionately brainstormed, designed, and drew up solutions. However, they were not alone in this endeavour. Supported by their parents and other community members they embraced the challenge of addressing local pollution issues using recycled materials. Confidence soared as they presented their creations to an authentic audience.

Fig. 4: Display of some inventions done by the students

Life and Career Skills

One of the most heartening outcomes of Code4Earth is the development of essential life and career skills. The project transformed young learners into self-directed individuals, instilling in them an unwavering self-assurance. Collaboration flourished as students demonstrate exceptional teamwork, communication, and problem-solving abilities. These skills, crucial for success in the 21st century, become second nature to the Code4Earth participants. The image below shows the key skills that the learners believed that this project helped them develop according to the P21 Framework for 21st Century Learning.

Fig. 5: Key skills learners believed that this project helped them develop

Fostering Creativity

Code4Earth goes beyond science and engineering; it fostered creativity. It encouraged students to think innovatively, empowering them to address pressing environmental challenges with fresh perspectives. The project ignited a passion for sustainability and a commitment to positive change, turning the participants into compassionate and mindful global citizens.

In Conclusion

Code4Earth brought about a passion for learning, a commitment to sustainable practices, and the shaping of future generations for empathetic and resourceful citizens. Code4Earth stands as a testament to the celebration of diversity, collaboration, and the development of essential transversal skills. It places us on the threshold of a brighter future where engineering and STEM play pivotal roles in shaping lives, communities, and our shared destiny. Educators, propelled by the belief that instilling these transversal skills is essential, must move forward with unwavering determination. Together, we nurture innovation and ignite the flames of positive change in the hearts of our students and beyond.

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